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<td>APPLIES TO:</td>
<td>Royal Norwegian Air Force</td>
</tr>
<tr>
<td>HEAD OF AUTHORITY:</td>
<td>Inspector of the Inspectorate of Air Operations</td>
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<td>SPECIALIST RESPONSIBILITY:</td>
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1. Introduction
The Royal Norwegian Air Force (RNORAF) currently operates two types of receivers. The F-16 AM/BM block 10 and 15 aircraft and the F-35A.

Norway is a part of the Multinational Multi-Role Tanker Transport (MRTT) Fleet (MMF) initiative, with the A-330 MRTT planned to enter service from 2020.

   a. Purpose
   The primary function of this document is to provide pertinent information regarding Air-To-Air (AAR) refueling with RNORAF receiver aircraft. This document is applicable to all Norwegian aircrew and foreign national AAR-crew and AAR-cells.

2. Tanker Aircraft Type
Norway currently does not operate any AAR-aircraft. An updated SRD will be in place when the MMF is operational.

3. National AAR clearance process
All clearances are obtained in accordance with ATP-3.3.4.2.

National Air Operations Centre (NAOC) is responsible for scheduling and booking AAR assets in NOR airspace. See contact info below (bullet 4b)

4. AAR Point of Contacts (POC).
   a. POC for National SRD and Tanker/Receiver Clearances
      Inspectorate of Air Operations
      Flyplassveien 300
      N-1590 Rygge Flystasjon
      Norway
      Telephone: +47 6923 8217
      E-mail: Luftoperativt.inspektorat@mil.no
   
   b. POC for AAR-coordination
      Norwegian Air Operations Centre
      Reitan Postboks 33
      8058 Tverlandet
      Norway
      Telephone: +47 7553 6900
      Email: naoc@mil.no

   c. POC for STAN-EVAL
      Same as for National SRD

5. National SRD Last updated
Latest version of the SRD will be published at: http://www.japcc.org/links/Pages/default.aspx
6. Receiver Aircrew Qualifications and Currency
   The RNORAF complies with NATO SRD 2, *Recommended Air-To-Air Refueling Aircrew Certification and Currency*.

7. National Reservations
   RNORAF does not have any current reservations or amendments to the standard ATP-3.3.4.2. procedures.
ANNEX A

TANKER INFORMATION

NOT APPLICABLE
ANNEX B

Appendix B1
Country tankers to foreign military receivers clearance and technical compatibility.

NOT APPLICABLE
Appendix B2

Country Receivers to foreign military and non military tankers clearance and technical compatibility

1. Introduction

Figure B2-1 is based upon JAPCC AAR MATRIX

<table>
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<tr>
<th>Country</th>
<th>Aircraft</th>
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<th>NOR F-35A</th>
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<td>C-135 FR</td>
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<td>NLD</td>
<td>KDC-10</td>
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</table>

Figure B2-1, Compatibility matrix

Type of clearance (legend):
1 = CAT 1 Clearance
2 = CAT 2 Clearance
3 = CAT 3 Clearance
? = Clearance Conflict
X = No Clearance Listed
Y = Clearance exists but is not yet categorized.
Appendix B5

Receiver specific AAR Information

1. F-16 AM/BM Block 10 and 15
   a. AAR Procedures
      As per ATP-56.


   b. AAR Data
      i. General limitations
         • Maximum airspeed with AR-door open: 400 KCAS/0.95 Mach, whichever is less.
         • Maximum airspeed AR-door transit: 400 KCAS/08.5 Mach, whichever is less.

         NOTE
         • A small amount of fuel spray from the nozzle and receptacle during fuel transfer does not require fuel transfer to be terminated. The receiver pilot should be notified if this condition exists and the air refueling operations will be continued or discontinued at his/her discretion.
         • The F-16AM has a 2-inch high antenna on the upper fuselage centerline, 3 feet forward of the receptacle. On the F-16BM, the antenna is 8 inches higher due to being mounted on the aft portion of the raised panels that blend the canopy to the fuselage.
         • Fuel venting under left wing can occur during AAR.
         • There is a single antenna on the fillet, approximately 2 feet aft of the receptacle.

      ii. Fuel chart

<table>
<thead>
<tr>
<th>LIQUID AND GASES USED DURING SERVICING</th>
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<tr>
<td>LIQUID/GAS</td>
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<td>---------------</td>
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<tr>
<td>FUEL PRIMARY</td>
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</table>
c. Lighting

- Lighting for the receptacle is of fixed intensity.
- The floodlight on the upper fuselage, which illuminates the AAR markings around the receptacle, can be varied in intensity.
2. F-35 A

a. AAR Procedures
As per ATP-56.


b. AAR Data
Data current as of 30 Jul 2018. Aircrew will be responsible to communicate any changes to these limitations.

i. General:
- AR is prohibited if tanker’s fuel tank temperature is below -46⁰ C (-50⁰ F).

ii. KC-135R/T:
- Altitude: 10,000 to 30,000 feet MSL
- Minimum airspeed: 230 KCAS from 10,000 to 18,000 feet MSL, linear variation from 230 KCAS at 18,000 feet MSL to 270 KCAS at 30,000 feet MSL.
- Maximum airspeed: 350 KCAS/0.84 Mach
- Boom envelope: 25⁰ to 40⁰ elevation and 10⁰ left and right azimuth.
- Fuel transfer conducted with up to 2 AR pumps.
- Do not conduct night AR with more than 1 light inoperative on each of the KC-135R/T and F-35A.

iii. KC-10A/KDC-10:
- Altitude: 10,000 to 30,000 feet MSL.
- Minimum airspeed: 230 KCAS.
- Maximum airspeed: 350 KCAS/0.87 Mach
- Boom envelope: 25⁰ to 40⁰ elevation and 19⁰ left and right azimuth.
- Fuel transfer conducted with up to 2 AR pumps.
- KC-10: Do not conduct night AR with more than 1 light inoperative on each of the KC-10A and F-35A with exception that if the F-3S spotlight, which illuminates the slipway is inoperative, both the KC-10A tail-mounted floodlight and boom nozzle light must be operational for night AR.
- KDC-10: Night AR may be accomplished with up to 2 lights inoperative on the F-35A or the boom nozzle light inoperative on the KDC-10. Do not conduct night AR with the KDC-10 tail-mounted floodlight inoperative unless all the following are met: during an emergency situation, all F-35A AR lights are fully operational and set to 99 percent, and the KDC-10 boom light is operational.
iv. **KC-767A:**
   - Altitude: 10,000 to 30,000 feet MSL.
   - Minimum airspeed: 265 KCAS.
   - Maximum airspeed: 325 KCAS/0.75 Mach
   - Boom envelope: 25° to 40° elevation and 10° left and right azimuth.
   - Do not conduct night AR with more than 2 aerial refueling lights inoperative on the F-35A, or any aerial refueling lights inoperative on the KC-767A.
   - Fuel transfer conducted with up to 2 AR pumps.
   - Air to Air refueling with a KC-767A tanker is limited to receiving fuel that is no less than -44.2° C (-47.5° F). Receiving fuel cooler than -44.2° C (-47.5° F) is prohibited.
   - Do not attempt a wet contact with a KC-767A tanker unless total fuel is below 12,000 pounds. Should a disconnect occur during refueling, do not attempt a wet contact with KC-767A tanker until total fuel has dropped below 12,000 pounds. Dry contact is permitted.

v. **KC-30:**
   - Altitude: 10,000 to 35,000 feet MSL.
   - Minimum airspeed: 265 KCAS.
   - Maximum airspeed: 320 KCAS/0.84 Mach.
   - Boom envelope: 25° to 40° elevation, 15° left and right azimuth, 6 to 21 feet extension.
   - Do not conduct night AR with more than 2 aerial refueling lights inoperative on the F-35A, or any aerial refueling lights inoperative on the KC-30.
   - Fuel transfer conducted with up to 3 AR pumps.
### c. Lighting (recommended tanker settings)

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<th>Model</th>
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<th>UW BRT: 1</th>
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- **KC-135R/T**
  - FORM BRT: 1
  - BNL: 10
  - PDL: 75%

- **KC-10A**
  - TMF: OPT: 7 Min: 5 Max: 7
  - BNL: 12 o’clock position
  - PDL: 50%

- **KC-30**
  - RCVR/UB BRT: 7
  - PDL: Min
  - UW BRT: 1
  - Flood BRT: 4
  - FORM BRT: 10
  - Marker BRT: 4
  - Tunnel: 5
  - POS: OFF